



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/521,687

10/20/2005

Asher Bartov

8327P001XC

2175

8791

7590

10/28/2008

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

XAVIER, VALENTINA

ART UNIT

PAPER NUMBER

3644

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,687	Applicant(s) BARTOV, ASHER	
	Examiner VALENTINA XAVIER	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 33-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 33-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 33 – 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macgregor (US 3,674,049) in view of Coutant et al (US 5,561,979), Wannasuphoprasit et al (US 6,241,462).

Macgregor '049 discloses a refueling system comprising a hose reel (6), said hose having an outlet end and a drogue (20) affixed to said outlet end (See Fig. 1), and a hose reel drive system comprising a hydraulic motor (fueldraulic motor 22) having an electric controller, control valve (16) and having an output shaft (See Fig. 2) connected to said reel.

Macgregor '049 discloses a fixed displacement hydraulic motor as opposed to a variable displacement hydraulic motor having a control piston. However, Coutant et al discloses a control arrangement for a hydrostatic system having a variable displacement hydraulic motor (Col. 1; Lines 5 – 10) with a control piston (130) that controls displacement of the motor (See Col. 4; last paragraph). It would have been obvious to one having

Art Unit: 3644

ordinary skill in the art at the time the invention was made to substitute the fixed displacement hydraulic motor with the variable displacement hydraulic motor as taught by Coutant et al '979 for the well-known advantage of versatility and motor efficiency with respect to torque vs. speed. It is well known in the art that variable displacement hydraulic motors will operate at high efficiency for all load conditions while the hydraulic flow requirements can be significantly reduced.

Macgregor '049 as modified by Coutant et al '979 discloses a microprocessor (Col. 1; Lines 59 – 64 of Coutant et al) connected to a control valve.

Macgregor as modified by Coutant et al '979 fails to disclose the motor using a electro-hydraulic (EH) control valve. The Examiner takes Official Notice that EH valves are very well known in the art and it would be within the skill of one having ordinary skill in the art at the time the invention was made to use an EH control valve for the well known advantage of reliability and a further refined control system in comparison to a mechanical servo mechanism.

Macgregor '049 as modified by Coutant et al does not teach that the displacement of the motor is controlled by a pressure change in an EH valve. However, the invention of Coutant et al would allow a pressure change in the EH valve to affect the displacement of its motor. Coutant already shows (in Col. 4; last paragraph) that the control piston 130 is controlled by pressurized fluid that creates a force that is operative in conjunction with the spring that biases the actuator piston (130). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pressure change in the

Art Unit: 3644

EH valve to control the piston since it would predictably result in the displacement of the motor.

Macgregor '049 fails to disclose a position sensor being positioned to detect the movement of the hose. However, Examiner takes Official Notice that the use of position sensors is well known and it would have been well within the knowledge of one having ordinary skill in the art to use a position sensor to detect the movement of the hose for the well known advantage of accuracy.

Macgregor '049 fails to disclose a torque sensor measuring the torque imposed on the reel. However, Wannasuphoprasit et al '462 discloses the use of a reel torque sensor on a suspended cable (Col. 15; lines 17 – 44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the torque sensor taught by Wannasuphoprasit et al '462 to measure the torque of the reel in Macgregor '049 for the well known advantage of preventing overload on the reel.

Although Macgregor '049 as modified with the microprocessor of Coutant et al '979 fails to disclose the microprocessor being electronically connected to said electro-hydraulic control valve, said reaction torque sensor and said position sensor, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include an electronic connection between the microprocessor and the EH control valve, torque sensor and position sensor, in order to accurately and efficiently operate the refueling system.

With regard to claims 33 – 35:

Given the structure provided by the combination provided in the discussion of claim 1 above, the functions recited in claims 33 to 35 would be capable of being performed using the aerial refueling system discussed above.

Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macgregor (US 3,674,049) as modified by Coutant et al (US 5,561,979), Wannasuphprasit et al (US 6,241,462) as discussed in the above paragraphs, and further in view of Exley (US 3,894,553).

Although Macgregor as modified by Coutant and Wannasuphprasit et al discloses moving the displacement controller in opposite directions to rotate the output shaft in different directions, it fails to disclose rotating a reel in two different directions. However, Exley discloses a cable reel control valve which discloses controlling a reversible flow between a hydraulic pump and a hydraulic motor wherein the reversal of the motor causes the motor to act as a pump (See Col. 3; last paragraph). The torque applied by the motor on the reel is minimized and therefore using the hydraulic motor to both speed up and slow down the movement of the reel would allow the motor to act as a pump. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize this method in the invention of Macgregor for efficiently winding and unwinding the reel.

Macgregor as modified above does not disclose the microprocessor containing instructions to perform certain functions in the motor. However, Examiner takes Official Notice that it is well known in the art to program microprocessors to perform any function and it would have been well within the knowledge of one having ordinary skill in the art at the time the invention was made to provide instructions along with the microprocessor to direct the motor in a certain direction in order to efficiently automate the process.

Response to Arguments

Applicant's arguments filed 7/21/2008 have been fully considered but they are not persuasive. Applicant argues that Macgregor does not disclose the motor having a control piston that controls displacement of the motor in and is controlled by a pressure change in an EH valve. However, Examiner discusses in the above paragraphs that the invention of Coutant et al would allow a pressure change in the EH valve to affect the displacement of its motor. Coutant already shows (in Col. 4; last paragraph) that the control piston 130 is controlled by pressurized fluid that creates a force that is operative in conjunction with the spring that biases the actuator piston (130). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pressure change in the EH valve to control the piston since it would predictably result in the displacement of the motor.

Applicant also argues that the Coutant reference teaches that the variable displacement motor is responsive to "fluid flow" and not "pressure responsive". However,

Examiner does not distinguish between a “pressure response” and a “pressurized fluid” response. Coutant et al shows the use of pressurized fluid used for varying the displacement and therefore the Examiner considers this "pressurized fluid" to be a “pressure response”.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VALENTINA XAVIER whose telephone number is (571)272-9853. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644

VX